Abstract of the Disclosure

Provided are a multi-component ceramic nano-composite powder that is suitable for forming a sintered ceramic composite and a method of preparing the same. The ceramic nano-composite powder is formed of secondary particles obtained by sintering multi-component ceramic particles with a nano-sized primary particle diameter in nano-scale. The multi-component ceramic particles may be formed of zirconia and alumina. A sintered zirconia-alumina composite formed by sintering the nano-composite powder has greater flexural strength than a sintered composite prepared by mechanically mixing zirconia powder and alumina powder and sintering the mixture.